

REMARKS

Reconsideration of this application is requested. Claims 47-54 are in the case.

In response to the restriction requirement, Group VI (claim 37) is hereby elected. New claims 47-54 are derived from claim 37.

The Examiner's attention is directed to copending application Serial No. 09/494,242 (Attorney Reference 1331-301) and the new claims presented therein in response to the outstanding Restriction Requirement in that case. A copy of the claims as so presented is attached to the present response for reconsideration by the Examiner.

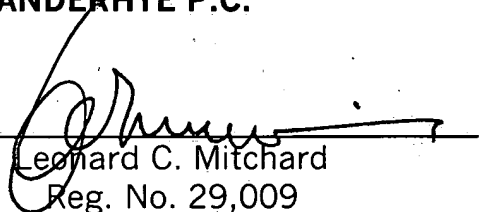
Favorable action on this application is awaited.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached pages is captioned "**Version With Markings To Show Changes Made.**"

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: _____


Leonard C. Mitchard
Reg. No. 29,009

LCM:lfm
1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4000
Facsimile: (703) 816-4100
Attachment: claims in Serial No. 09/494,242

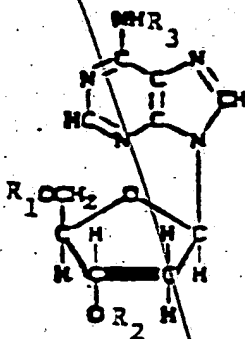
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Claims 1-46 are canceled.

New Claims 47-54 are added.

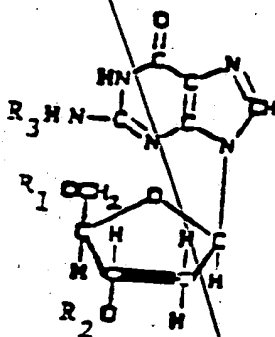
48. (New) A method of enhancing the delivery of exogenous deoxyribonucleosides to the tissue of an animal, comprising the step of administering to said animal an effective amount of an acyl derivative of 2'-deoxyadenosine, having the formula



wherein R₁, R₂, and R₃ are the same or different and each is hydrogen or an acyl group derived from

- (a) an unbranched fatty acid with 3 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,
- (c) nicotinic acid, or
- (d) a dicarboxylic acid having 3 to 22 carbon atoms, provided that not all of R₁, R₂, and R₃ are H, and where R₃ is not H, then R₁ and/or R₂ may also be acetyl, or a pharmaceutically acceptable salt thereof.

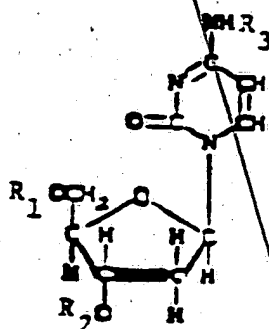
49. (New) A method of enhancing the delivery of exogenous deoxyribonucleosides to the tissue of an animal, comprising the step of administering to said animal an effective amount of an acyl derivative of 2'-deoxyguanosine having the formula



wherein R₁, R₂, and R₃ are the same or different and each is hydrogen or an acyl group derived from

- (a) an unbranched fatty acid with 3 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, phenylalanine, carnitine, and ornithine,
- (c) nicotinic acid, or
- (d) a dicarboxylic acid having 3 to 22 carbon atoms, provided that not all of R₁, R₂, and R₃ are H, and where R₃ is not H, then R₁ and/or R₂ may also be acetyl, or a pharmaceutically acceptable salt thereof.

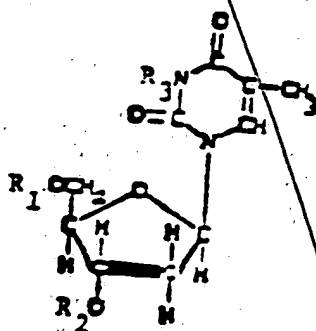
50. (New) A method of enhancing the delivery of exogenous deoxyribonucleosides to the tissue of an animal, comprising the step of administering to said animal an effective amount of an acyl derivative of 2'-deoxycytidine, having the formula



wherein R₁, R₂, and R₃ are the same or different and each is hydrogen or an acyl group derived from

- (a) an unbranched fatty acid with 3 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,
- (c) nicotinic acid, or
- (d) a dicarboxylic acid having 3 to 22 carbon atoms, provided that not all of R₁, R₂, and R₃ are H, and where R₃ is not H, then R₁ and/or R₂ may also be acetyl, or a pharmaceutically acceptable salt thereof.

51. (New) A method of enhancing the delivery of exogenous deoxyribonucleosides to the tissue of an animal, comprising the step of administering to said animal an effective amount of an acyl derivative of 2'-deoxythymidine, having the formula

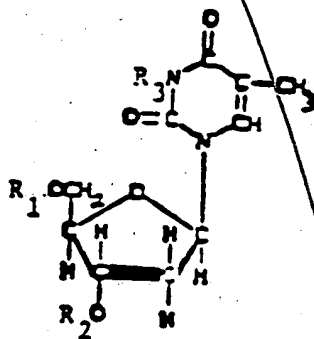


wherein R₁ is an acyl group derived from

- (a) an unbranched fatty acid with 3 to 15 or 17 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,
- (c) nicotinic acid, or

(d) a dicarboxylic acid having 3 to 22 carbon atoms, and R_2 and R_3 are H, or a pharmaceutically acceptable salt thereof.

52. (New) A method of enhancing the delivery of exogenous deoxyribonucleosides to the tissue of an animal, comprising the step of administering to said animal an effective amount of an acyl derivative of 2'-deoxythymidine, having the formula

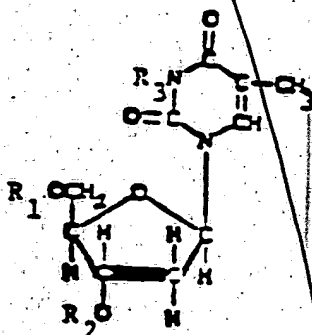


wherein R_1 is H, R_2 is an acyl group derived from

- (a) an unbranched fatty acid with 3 to 13 or 15 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,
- (c) nicotinic acid, or

(d) a dicarboxylic acid with 3 to 22 carbon atoms, and R_3 is H or a pharmaceutically acceptable salt thereof.

53. (New) A method of enhancing the delivery of exogenous deoxyribonucleosides to the tissue of an animal, comprising the step of administering to said animal an effective amount of an acyl derivative of 2'-deoxythymidine, having the formula



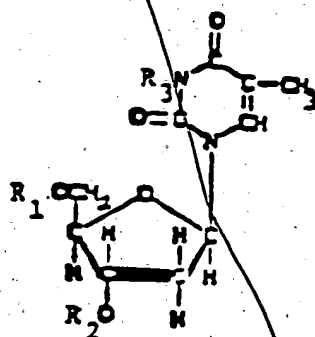
wherein R_1 and R_2 are the same or different and each is an acyl group derived from

- (a) an unbranched fatty acid with 5 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,

(c) nicotinic acid, or

(d) a dicarboxylic acid with 3 to 22 carbon atoms, and R_3 is H or a pharmaceutically acceptable salt thereof.

54. (New) A method of enhancing the delivery of exogenous deoxyribonucleosides to the tissue of an animal, comprising the step of administering to said animal an effective amount of an acyl derivative of 2'-deoxythymidine, having the formula



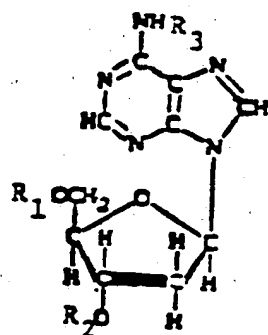
wherein R_1 and R_2 are the same or different and each is an acyl group derived from

- (a) an unbranched fatty acid with 2 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,

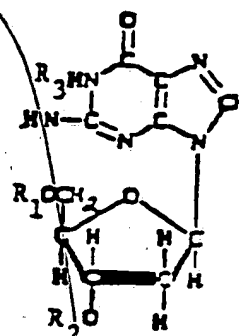
(c) nicotinic acid or

(d) a dicarboxylic acid with 3 to 22 carbon atoms, and R_3 is an acyl group derived from an optionally substituted benzoyl or heterocyclic carboxylic acid that is substantially nontoxic, or a pharmaceutically acceptable salt thereof.

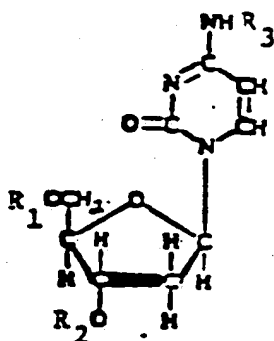
55. (New) A method of enhancing the delivery of exogenous deoxyribonucleosides to the tissue of an animal, comprising the step of administering to said animal an effective amount of each of at least two compounds selected from at least two of the groups of compounds having formulae



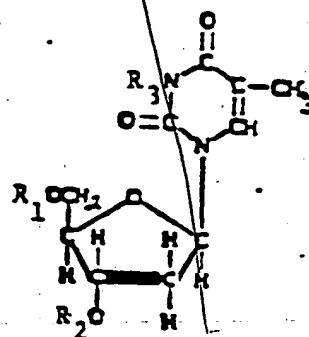
(I)



(II)



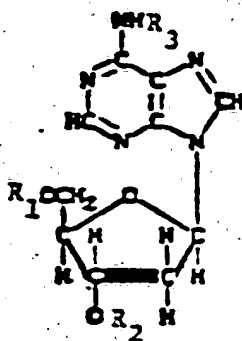
(III)



(IV)

wherein R_1 , R_2 , and R_3 are the same or different and each is H or an acyl group derived from a carboxylic acid, provided that at least one of said substituents R_1 , R_2 , and R_3 on each of said groups of compounds is not hydrogen, or pharmaceutically acceptable salts thereof.

56. (New) A method for treating or preventing radiation-induced cellular damage or sunlight-induced cellular damage comprising administering to an animal an effective amount of a composition comprising an acyl derivative of 2'-deoxyadenosine, having the formula



wherein R_1 , R_2 , and R_3 are the same or different and each is hydrogen or an acyl group derived from

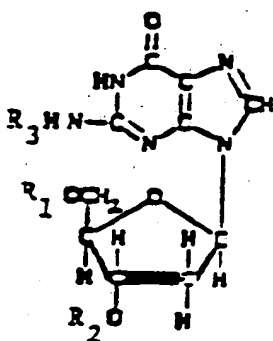
(a) an unbranched fatty acid with 3 to 22 carbon atoms,

(b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,

(c) nicotinic acid, or

(d) a dicarboxylic acid having 3 to 22 carbon atoms, provided that not all of R_1 , R_2 , and R_3 are H, and where R_3 is not H, then R_1 and/or R_2 may also be acetyl, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

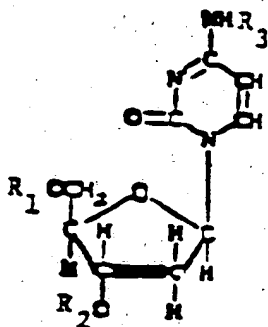
57. (New) A method for treating or preventing radiation-induced cellular damage or sunlight-induced cellular damage comprising administering to an animal an effective amount of a composition comprising an acyl derivative of 2'-deoxyguanosine having the formula



wherein R_1 , R_2 , and R_3 are the same or different and each is hydrogen or an acyl group derived from

- (a) an unbranched fatty acid with 3 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, phenylalanine, carnitine, and ornithine,
- (c) nicotinic acid, or
- (d) a dicarboxylic acid having 3 to 22 carbon atoms, provided that not all of R_1 , R_2 , and R_3 are H, and where R_3 is not H, then R_1 and/or R_2 may also be acetyl, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

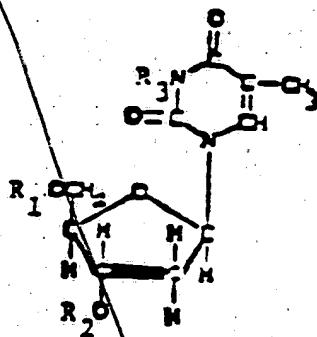
58. (New) A method for treating or preventing radiation-induced cellular damage or sunlight-induced cellular damage comprising administering to an animal an effective amount of a composition comprising an acyl derivative of 2'-deoxycytidine, having the formula



wherein R_1 , R_2 , and R_3 are the same or different and each is hydrogen or an acyl group derived from

- (a) an unbranched fatty acid with 3 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,
- (c) nicotinic acid, or
- (d) a dicarboxylic acid having 3 to 22 carbon atoms, provided that not all of R_1 , R_2 , and R_3 are H, and where R_3 is not H, then R_1 and/or R_2 may also be acetyl, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

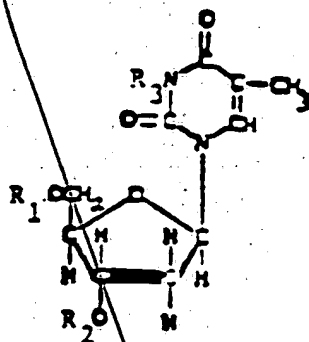
59. (New) A method for treating or preventing radiation-induced cellular damage or sunlight-induced cellular damage comprising administering to an animal an effective amount of a composition comprising an acyl derivative of 2'-deoxythymidine, having the formula



wherein R₁ is an acyl group derived from

- (a) an unbranched fatty acid with 3 to 15 or 17 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,
- (c) nicotinic acid, or
- (d) a dicarboxylic acid having 3 to 22 carbon atoms, and R₂ and R₃ are H, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

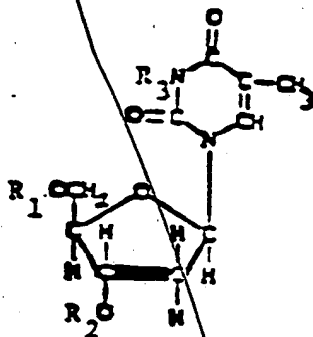
60. (New) A method for treating or preventing radiation-induced cellular damage or sunlight-induced cellular damage comprising administering to an animal an effective amount of a composition comprising an acyl derivative of 2'-deoxythymidine, having the formula



wherein R₁ is H, R₂ is an acyl group derived from

- (a) an unbranched fatty acid with 3 to 13 or 15 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,
- (c) nicotinic acid, or
- (d) a dicarboxylic acid with 3 to 22 carbon atoms, and R₃ is H or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

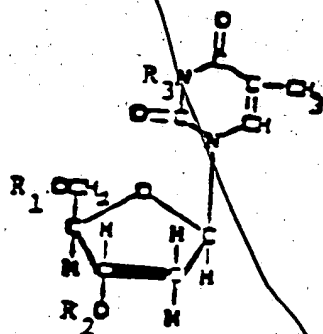
61. (New) A method for treating or preventing radiation-induced cellular damage or sunlight-induced cellular damage comprising administering to an animal an effective amount of a composition comprising an acyl derivative of 2'-deoxythymidine, having the formula



wherein R₁ and R₂ are the same or different and each is an acyl group derived from

- (a) an unbranched fatty acid with 5 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,
- (c) nicotinic acid, or
- (d) a dicarboxylic acid with 3 to 22 carbon atoms, and R₃ is H or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

62. (New) A method for treating or preventing radiation-induced cellular damage or sunlight-induced cellular damage comprising administering to an animal an effective amount of a composition comprising an acyl derivative of 2'-deoxythymidine, having the formula

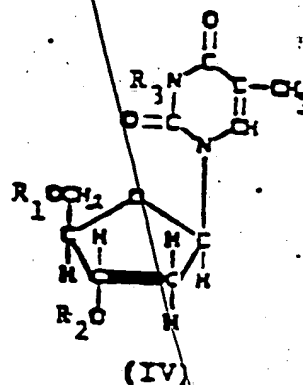
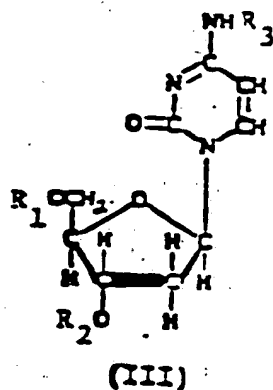
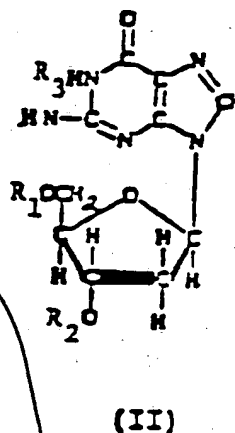
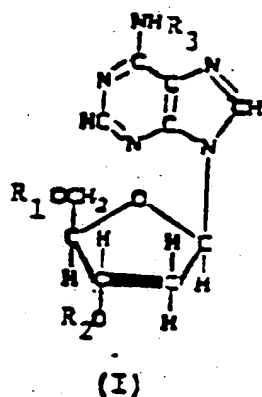


wherein R₁ and R₂ are the same or different and each is an acyl group derived from

- (a) an unbranched fatty acid with 2 to 22 carbon atoms,
- (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,
- (c) nicotinic acid or
- (d) a dicarboxylic acid with 3 to 22 carbon atoms, and R₃ is an acyl group derived from an optionally substituted benzoyl or heterocyclic

carboxylic acid that is substantially nontoxic, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

63. (New) A method for treating or preventing radiation-induced cellular damage or sunlight-induced cellular damage comprising administering to an animal an effective amount of a composition comprising an effective amount of each of at least two compounds selected from at least two of the groups of compounds having formulae



wherein R_1 , R_2 , and R_3 are the same or different and each is H or an acyl group derived from a carboxylic acid, provided that at least one of said substituents R_1 , R_2 , and R_3 on each of said groups of compounds is not hydrogen, or pharmaceutically acceptable salts thereof, and a pharmaceutically acceptable carrier.